Amendments to the Specification:

Please replace the paragraph beginning on page 11, line 10 with the following amended paragraph:

In this example, it is preferred that the high-quality underlying oxide film 21 comprises a ~~silicone~~ silicon oxide film (hereinafter referred to as "SiO_2 film") which has been formed by irradiating a substrate to be treated mainly comprising Si, with a microwave through a plane antenna member having a plurality of slots in the presence of a process gas comprising O_2 and a rare gas so as to generate plasma, and forming the oxide film at the surface between the high-k substance and the substrate by using the thus generated plasma. When such underlying SiO_2 is used, as described hereinafter, it is easy to obtain a good Si/gate insulator interfacial property (such as interfacial level), and a good gate leakage characteristic.

Prior to the paragraph beginning "Fig. 4 is a schematic plan...," please replace the text at page 14, line 27 with the following amended text:

(One ~~Ebodiment~~ Embodiment of RSLA)

Please replace the paragraph beginning on page 21, line 29 with the following amended paragraph:

In ~~adition~~ addition, only the thermal CVD process is described as a practical example of the film-formation process for the high-k substance, but an

arbitrary process may be used for the film formation of the high-k substance. For example, the film formation can be also performed by plasma CVD or PVD process.

Please replace the paragraph beginning on page 23, line 29 with the following amended paragraph:

The silicon substrate treated in the above (3) step was then subjected to an RLSA plasma oxidation treatment. On the silicone substrate heated at 400°C, a rare gas and oxygen were flown at 2,000 sccm and 200 sccm, respectively, and the pressure was kept at 67 Pa (500 mTorr). In this atmosphere, microwave of 2.8 W/cm^2 was supplied through a plane antenna member (RLSA) to form plasma containing oxygen and rare gas, and by using the thus formed plasma, a plasma oxidation treatment was applied onto the substrate in the above (3).

Please replace the paragraph beginning on page 24, line 17 with the following amended paragraph:

The TiN ~~electrodwhich~~ electrode which had been formed in the above (5) step was subjected to patterning by lithography and then, the silicon substrate was soaked in an aqueous hydrogen peroxide (H_2O_2) chemical solution for 90 minutes to dissolve the TiN in the non-patterned portion, to thereby form an MOS capacitor.

Please replace the paragraph beginning on page 25, line 2 with the following amended paragraph:

As shown in FIG. 14, the reference oxide film reaches a film thickness of 25 A when the oxidation time is 20 seconds or more. As the treatment time is shorter, the reproducibility of the process becomes lower, and the control of the film thickness also becomes more difficult. Therefore, a short-time process of 20 seconds or less is not practical. This reveals that the film thickness (10 A or less) to be required as a high-k oxynitride film can be hardly obtained by the normal oxidation process as shown in the reference of FIG. [[16]] 14. On the other hand, when the RLSA oxidation treatment is applied to an HfSiO film as shown in FIG. 14, even if a long-time treatment of 35 seconds or more is applied, the increase in the electrical film thickness is as small as about 10 A, based on the initial film thickness (about 16 A). Only a rare gas and an oxygen gas are used for the oxidation process, and therefore it is considered that this film thickness increase is attributable to oxygen. It is considered that the film thickness increase may include the film thickness increase from the interface and the film thickness increase in the film itself (bulk). At present, crystallization due to high-temperature annealing is known as a problem of the high-k substance including HfSiO film. This crystallization is considered to occur due to a small absolute amount of Si atoms in the film. In this meaning, the film thickness increase resulting from the mingling or mixing of oxygen into the film is unlikely the film thickness increase resulting from the insertion of O atoms into the Si--Si

bonds. Also, as is known in general, the Hf--O bonds are abundantly contained. From these, the matter most greatly contributing to the film thickness increase may highly probably be the film thickness increase from the substrate, that is, the formation of an oxide film at the interface. Accordingly, it is considered that a very thin oxide film can be formed at the interface by the present invention.